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1901/02



MEDICAL HALL.

CALENDAR FOR 1901-1902.

1901.

1902.

JULY.							JANUARY.						
S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
..	1	2	3	4	5	6	..	..	..	1	2	3	4
7	8	9	10	11	12	13	5	6	7	8	9	10	11
14	15	16	17	18	19	20	12	13	14	15	16	17	18
21	22	23	24	25	26	27	19	20	21	22	23	24	25
28	29	30	31	..	..	..	26	27	28	29	30	31	..
..
AUGUST.							FEBRUARY.						
..	..	..	..	1	2	3	..	..	..	..	..	..	1
4	5	6	7	8	9	10	2	3	4	5	6	7	8
11	12	13	14	15	16	17	9	10	11	12	13	14	15
18	19	20	21	22	23	24	16	17	18	19	20	21	22
25	26	27	28	29	30	31	23	24	25	26	27	28	..
..
SEPTEMBER.							MARCH.						
1	2	3	4	5	6	7	..	..	..	..	..	..	1
8	9	10	11	12	13	14	2	3	4	5	6	7	8
15	16	17	18	19	20	21	9	10	11	12	13	14	15
22	23	24	25	26	27	28	16	17	18	19	20	21	22
29	30	..	..	..	..	..	23	24	25	26	27	28	29
..	..	..	..	..	..	..	30	31	..	..	..	..	..
OCTOBER.							APRIL.						
..	..	1	2	3	4	5	..	..	1	2	3	4	5
6	7	8	9	10	11	12	6	7	8	9	10	11	12
13	14	15	16	17	18	19	13	14	15	16	17	18	19
20	21	22	23	24	25	26	20	21	22	23	24	25	26
27	28	29	30	31	..	..	27	28	29	30	..	..	..
..
NOVEMBER.							MAY.						
..	..	..	..	..	1	2	..	..	..	1	2	3	..
3	4	5	6	7	8	9	4	5	6	7	8	9	10
10	11	12	13	14	15	16	11	12	13	14	15	16	17
17	18	19	20	21	22	23	18	19	20	21	22	23	24
24	25	26	27	28	29	30	25	26	27	28	29	30	31
..
DECEMBER.							JUNE.						
1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31	29	30
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The year 1902-1903 will begin September 2, 1902.

College Calendar.

1901.

SEPTEMBER	3 to 7	Entrance Examinations.
	11	Opening Day, last day for registration.
	11	Work in technic laboratories and infirmary begins.
	19, 20	Examinations for conditions and advanced standing.
	24	Lecture and laboratory courses begin.
NOVEMBER	28	THANKSGIVING DAY.
DECEMBER	3	Work resumed.
	21	Holiday vacation begins.
	25	CHRISTMAS DAY.

1902.

JANUARY	1	NEW YEAR'S DAY.
	7	Work resumed.
	20, 31	Mid-year examinations.
	25	First semester ends.
FEBRUARY	4	Second semester begins.
	12	LINCOLN'S BIRTHDAY—Holiday.
	22	WASHINGTON'S BIRTHDAY—Holiday.
MAY	17	Second semester ends
	19	Final examinations begin.
	29	Infirmary and laboratories close.
	30	MEMORIAL DAY.

COMMENCEMENT WEEK.

SUNDAY,	JUNE 1st,	BACCALAUREATE SERVICE.....	3:00 p. m.
MONDAY	JUNE 2d,	SENIOR CLASS EXERCISES—Announcement by the class.	
TUESDAY,	JUNE 3d,	MEETING OF THE REGENTS.	
WEDNESDAY,	JUNE 4th,	ALUMNI DAY.	
THURSDAY,	JUNE 5th,	COMMENCEMENT DAY—The Thirtieth Annual Commencement.	
		Graduation Exercises (Armory).....	9:00 a. m.
		Alumni Banquet and President's Reception.....	1:00 p. m.
FRIDAY,	JUNE 6th,	SUMMER VACATION BEGINS.	

The University

THE UNIVERSITY OF MINNESOTA comprises the following named colleges, schools and departments:

THE GRADUATE DEPARTMENT.

THE COLLEGE OF SCIENCE, LITERATURE AND THE ARTS.

The School of Technical and Applied Chemistry.

THE COLLEGE OF ENGINEERING AND THE MECHANIC ARTS.

THE SCHOOL OF MINES.

THE COLLEGE OF AGRICULTURE.

The School of Agriculture.

The Dairy School.

THE COLLEGE OF LAW.

THE DEPARTMENT OF MEDICINE, composed of colleges as follows:

The College of Medicine and Surgery.

The College of Homeopathic Medicine and Surgery.

The College of Dentistry.

The College of Pharmacy.

The Regents of the University have also entrusted to their charge

THE EXPERIMENT STATION;

THE GEOLOGICAL AND NATURAL HISTORY SURVEY.

THE GRADUATE DEPARTMENT. In each of the colleges, except that of medicine, there are advanced courses of study leading to second degrees. These courses are open to graduates of any reputable college upon presentation of diploma.

In the COLLEGE OF SCIENCE, LITERATURE AND THE ARTS there are four four-year courses of study, the classical, scientific, literary and civic. The classical course offers for its leading studies the Greek and Latin languages; the scientific course, the natural and physical sciences; the literary course, the modern languages; the civic course, history and economics. The completion of the courses leads respectively to the degrees: bachelor of arts, bachelor of science, bachelor of literature, and bachelor of philosophy. The advanced degrees offered in this college are: master of arts, science, literature and philosophy, and doctor of philosophy.

The School of Technical and Applied Chemistry, leading to the degree of bachelor of science, is also organized as a part of this college.

A Summer School for Teachers. A four weeks' course of instruction is offered, in various University subjects, for those whose school duties prevent them from taking the regular University courses.

THE COLLEGE OF ENGINEERING AND THE MECHANIC ARTS offers courses of study, of four years each, in civil, mechanical and electrical engineering; leading to the degrees of civil, mechanical and electrical engineer. This college offers a four years' course of study in science and technology leading to the degree of bachelor of science, with an additional year leading to the engineer's degree in the various lines offered in the college. This college also offers graduate work leading to the degree master of science.

THE SCHOOL OF MINES offers a four years' course of study in mining and metallurgy; upon the completion of which the degrees engineer of mines and metallurgical engineer are conferred.

THE COLLEGE OF AGRICULTURE offers a regular course in agriculture of four years college work; the degree of bachelor of agriculture is conferred on completion of the course.

THE SCHOOL OF AGRICULTURE is open to both men and women, and is a training school for practical farm life and in domestic economy. The college of agriculture is open to graduates of this school.

A Dairy School offers practical instruction in dairying to those who have had some experience in conducting a dairy.

THE COLLEGE OF LAW offers a three years' course of instruction, leading to the degree of bachelor of laws. There is an evening class in this college leading to the same degree. This college offers graduate work leading to the degrees, master of laws, and doctor of civil law.

THE COLLEGE OF MEDICINE AND SURGERY and THE COLLEGE OF HOMEOPATHIC MEDICINE AND SURGERY each offers a four years' course of study, of eight and one-half months each. Upon completion of the prescribed course the degree, doctor of medicine is conferred.

THE COLLEGE OF DENTISTRY offers a three years' course of study of nine months each; upon completion of the prescribed course the degree of doctor of dental medicine is conferred.

THE COLLEGE OF PHARMACY offers a two or three years' course of study, leading to the degree of pharmaceutical chemist. This college also offers graduate work leading to the degrees, master of pharmacy, and doctor of pharmacy.

SPECIAL COURSES. In each of the colleges, students, of an advanced age and adequate preparation, are permitted to pursue, under the direction of the faculty, one or two distinct lines of study.

Bulletins of any department sent free to any address, upon application. The full catalogue will be sent only upon receipt of ten cents to cover postage. Address,

THE REGISTRAR,

University of Minnesota,
Minneapolis, Minn.

Board of Regents

The HON. JOHN S. PILLSBURY, MINNEAPOLIS,	-	-	-	-	<i>Regent for Life</i>
CYRUS NORTHROP, LL. D., MINNEAPOLIS,	-	-	-	-	<i>Ex-Officio</i>
The President of the University.					
The HON. SAMUEL R. VAN SANT, WINONA,	-	-	-	-	<i>Ex-Officio</i>
The Governor of the State.					
The HON. JOHN W. OLSON, ALBERT LEA,	-	-	-	-	<i>Ex-Officio</i>
The State Superintendent of Public Instruction.					
The HON. ELMER E. ADAMS, B. A., FERGUS FALLS,	-	-	-	-	1902
The HON. THOMAS WILSON, ST. PAUL,	-	-	-	-	1903
The HON. WILLIAM M. LIGGETT, BENSON,	-	-	-	-	1903
The HON. A. E. RICE, WILLMAR,	-	-	-	-	1903
The HON. GREENLEAF CLARK, M. A., ST. PAUL,	-	-	-	-	1904
The HON. SAMUEL G. SMITH, PH. D., LL. D., ST. PAUL,	-	-	-	-	1904
The HON. STEPHEN MAHONEY, B. A., MINNEAPOLIS,	-	-	-	-	1907
The HON. O. C. STRICKLER, M. D., NEW ULM,	-	-	-	-	1907
The HON. JAMES T. WYMAN, MINNEAPOLIS,	-	-	-	-	1907

OFFICERS

The HON. JOHN S. PILLSBURY, *President.*

PRESIDENT CYRUS NORTHROP, LL. D., *Corresponding Secretary.*

STEPHEN MAHONEY, B. A., *Recording Secretary.*

ST. ANTHONY FALLS BANK, *Treasurer.*

The Department of Medicine.

THE DEPARTMENT OF MEDICINE INCLUDES THE FOLLOWING NAMED COLLEGES:

The College of Medicine and Surgery.

The College of Homeopathic Medicine and Surgery.

The College of Dentistry.

The College of Pharmacy.

Each college is distinct in the government of its internal affairs, has its own faculty and an independent curriculum, excepting in the studies of anatomy, physiology, chemistry, histology and embryology. These studies, so far as they are required in each course, are pursued by all the students of the department in common.

BUILDINGS AND EQUIPMENT.

The department is resident in four buildings situated upon the University campus, viz: Medical hall, the laboratory of medical sciences, the laboratory of chemistry and the laboratory of anatomy.

Medical hall contains the offices of the deans of the college of medicine and surgery, of the college of homeopathic medicine and surgery and of the college of dentistry; the large amphitheatre and lecture rooms of the several colleges, the library and reading room of the department, the laboratories of anatomy and materia medica, the operating-rooms and laboratories of dentistry and the dental infirmary.

The laboratory of medical sciences is a building especially designed for laboratory uses. One wing of the building is occupied by the college of pharmacy and the department of physiology. It contains the office and private laboratory of the dean of the college of pharmacy, the pharmaceutical and botanical laboratories, the laboratory of organic chemistry, with preparation and stock rooms. The office of the secretary of the college of medicine and surgery, a large lecture amphitheatre, especially arranged for demonstrative work, the laboratories of physiology, physiologic chemistry, practical dietetics, and operative surgery are also situated in this wing.

The center and opposite wing are occupied by the departments of histology and embryology, pathology and bacteriology. Each of these branches has its well-lighted laboratories, preparation-rooms and private study rooms.

Upon the basement floor are laboratory stock-rooms and the animal rooms devoted to physiologic and bacteriologic purposes.

A large laboratory upon the first floor is assigned to the bacteriological work of the State Board of Health.

The laboratory of chemistry is a one-story brick building devoted entirely to the use of this department. It is equipped with amphitheatre laboratories, preparation-rooms, store-rooms, and the private offices of the professor and assistant professor of chemistry.

The laboratory of anatomy is a new two-story and basement building, 35x60 feet. In the basement are the morgue, injecting room, cold storage vaults and engine and apparatus for the carbon dioxide freezing plant. On the first floor are an amphitheatre seating one hundred students, the private offices of the professors and instructors, a private dissecting room and a small laboratory for research work. The entire second floor is devoted to laboratories for practical work in anatomy.

A clinical building has been recently erected and equipped. It is situated in a part of the city most favorable to the development of an out door service and, at the same time, accessible to the students. It is of two-stories and covers 40x150 feet. It affords ample floor space for amphitheatres, waiting rooms, pharmacy and class-rooms for each of the clinical branches. Wards and laboratories, in which section work in medical and surgical diagnosis can be conducted, have been equipped.

The department of medicine is in intimate relationship, through its several faculties, with the hospitals, infirmaries and dispensaries of the cities of Minneapolis and St. Paul. Through these agencies it utilizes, for the benefit of its students, the clinical material of these two large centers of population. The location of the University near the interurban car line enhances the value and convenience of these clinical opportunities.

A medical library, containing some twenty-four hundred volumes and supplied with current periodicals, is open to all the students of the department. The collection has been chosen with special regard to the need for reference work and collateral reading. The general library of the University and the public and medical libraries of Minneapolis and St. Paul are also open to the students of this department.

The College of Dentistry

FACULTY

CYRUS NORTHROP, LL. D., *President.*

WILLIAM P. DICKINSON, D. D. S., Andrus Building, *Dean and Professor of Materia Medica.*

THOMAS E. WEEKS, D. D. S., 501 Dayton Building. *Professor of Operative Dentistry and Crown and Bridge-Work.*

THOMAS B. HARTZELL, M. D., D. M. D., 9 Syndicate Block. *Professor of Pathology Therapeutics and Oral Surgery.*

OSCAR A. WEISS, D. M. D., 506 Masonic Temple. *Professor of Prosthetic Dentistry and Orthodontia.*

ALFRED OWRE, D. M. D., M. D., C. M., 401 Masonic Temple, *Professor of Metallurgy and Clinical Professor of Operative Dentistry.*

CHARLES A. ERDMANN, M. D., 802 Dayton Building. *Professor of Anatomy.*

RICHARD O. BEARD, M. D., 812 Dayton Building. *Professor of Physiology.*

CHARLES J. BELL, A. B., University of Minnesota. *Professor of Chemistry.*

H. C. CAREL, B. S., *Assistant Professor of Chemistry.*

THOMAS G. LEE, A. M., M. D., University of Minnesota. *Professor of Histology and Embryology.*

WINFIELD S. NICKERSON, Sc. D., *Assistant Professor of Histology.*

FRANK F. WESBROOK, M. A., M. D., C. M., 328 Tenth Ave. S. E., *Professor of Bacteriology and Pathology.*

S. M. WHITE, B. S., M. D., *Assistant Professor of Bacteriology and Pathology.*

FRANK R. WRIGHT, D. D. S., M. D., 403 Dayton Building, *Lecturer on Anæsthesia and Chief of Anæsthetic Clinic.*

MARY V. HARTZELL, D. M. D., 9 Syndicate Block, *Instructor in Dental Anatomy.*

H. M. REID, D. D. S., 423 Medical Block, *Instructor in Prosthetic Dentistry.*

CHARLES A. VAN DUZEE, D. D. S., St. Paul, *Instructor in Operative Dentistry.*

E. FRANKLYN HERTZ, D. M. D., Andrus Building, *Instructor in Prosthetic Dentistry.*

JAMES O. WELLS, A. M., D. M. D., Masonic Temple, *Instructor in Crown and Bridge Work.*

MARGARET L. NICKERSON, M. A., *Instructor in Histology.*

H. K. READ, M. D., *Demonstrator of Anatomy.*

M. RUSSELL WILCOX, M. D., *Demonstrator in Physiology.*

Announcement.

The College of Dentistry of the University of Minnesota offers a progressive course of study which covers three terms of nine months each, in three separate calendar years. Classes are graded as first, second and third year. Students who successfully pursue this course are given the degree D. M. D. (doctor of dental medicine). which entitles them to come before any state board of dental examiners for a license to practice dentistry in that state.

The central idea upon which this institution was founded, is that dentistry is a branch of the healing art, and that the practitioner should possess a medical education, hence the curriculum has been broadened so as to include the fundamental principles that underlie the practice of medicine. In this connection special attention is called to the fact that while a thorough course is required, practical work is not neglected. The technical courses are very complete and the clinical facilities are unsurpassed.

Another special feature of this institution is that in laboratory work and infirmary practice, students at all times operate under competent instructors, the professors themselves serving as demonstrators, and every stage of each operation receives due criticism and marking.

The College of Dentistry of the University of Minnesota is a member of the National Association of Dental Faculties, and its diplomas are recognized by the Dental Examining Boards of every state.

Course of Instruction.

FIRST YEAR.—ANATOMY.

Osteology.

Lectures and recitations upon the human skeleton and supplementary work on the osteology of domestic mammals; three hours each week, for 10 weeks of first semester. Practical study of the skeleton, followed by recitations from the specimen, taken by the class, in sections; 2 hours each section, for 10 weeks, first semester. Required of all first year students.

Syndesmology.

Lectures, recitations and laboratory demonstrations. 3 hours each week, for 4 weeks, first semester.

Myology and Angiology.

Lectures and recitations covering the entire muscular and arterial systems of the human body, with a supplementary study of comparative myology; 3 hours each week, 16 weeks. Laboratory work consists in identifying the muscles of the human body on dissected preparations and showing their actions. Class, in sections, 4 hours each week, for 5 weeks.

Text-books required:

Quain's Anatomy, tenth addition, Vol. II, parts 1 and 2. Morris' Anatomy.

DENTAL ANATOMY.

The subject is taught by a thorough laboratory course, in which the student studies the teeth by dissection, modelling, carvings and drawings. In the study of dental anatomy, human and comparative, the definition, terminology, notation, form and arrangement of the teeth will be fully considered; also macroscopic and microscopic characteristics of sections, including the study of the relation of enamel to dentine and of the pulp canal.

In the study of structural anatomy, teeth will be selected and mounted upon wooden blocks. They will be filed down until the pulp chamber and canals are exposed, and drawings from actual measurements of the different aspects will then be made and carefully studied. Opportunity for the study of microscopic sections and lantern slides will also be afforded. The didactic instruction will be illustrated by "chalk talks," lantern slides, lectures, heroic models and skulls.

The standing of the student will be determined by marks given on the cutting of sections, models, drawings, and recitations. Lectures and recitations, covering the influence of form and arrangement of the teeth upon caries, will also be given.

Text-book required—Black's Dental Anatomy.

Collateral reading—American Text-book (Thompson;) Comparative Dental Anatomy—(Thompson;) Dental Anatomy, Human and Comparative (Tomes'.)

PHYSIOLOGY.

The subject is taught by recitations and lectures illustrated by practical demonstrations. These embrace the discussion, and, as far as possible, the observation of physiological ingredients of the animal body; of the physiology of cell life or the fundamental properties of the cell; the nutritive media, blood, lymph and chyle; of the elementary functions of

the nervous system; of the muscular tissues, and the epithelial tissues; of the vascular mechanism; of the alimentary canal; of the organs of secretion, excretion and respiration,
Text-book required—Foster's Physiology.

HISTOLOGY AND EMBRYOLOGY.

This course will consist of lectures, recitations, laboratory work and demonstrations and will include a study of the structure and properties of protoplasm; the cell, its structure and properties, cell division, reproduction, ovum, spermatozoon, and formation of blastoderm. A study of the structure and life history of certain type-forms of unicellular animals and plants, as *amœba paramœcium* yeast, *spirogyra*, etc., simple metazoa, as *hydra*, etc.; a consideration of the structure of vertebrates; the tissues, as epithelium, connective tissue, cartilage bone, etc., muscle, nerve, blood and lymph; vascular and lymphatic system. The teeth, enamel, dentine, cementum, pulp, etc. A general outline of the development of the embryo; the formation of the head; development of the jaws, teeth, oral cavity, glands, etc.

First semester, recitations, four hours per week; laboratory, six hours per week.

Text-book required—Stohr's Histology.

CHEMISTRY.

- (a) Lectures on the chemistry of the elements.
- (b) Laboratory work in general inorganic chemistry of non-metallic and metallic elements.
- (c) Lectures on qualitative analysis with special attention to the examination of alloys.
- (d) Laboratory work corresponding to course (c) and including the qualitative determination of bases and acids. In this course several alloys are analyzed by each student.
- (e) Recitations are carried on throughout the year to test the individual knowledge of each student.
- (f) Optional courses are offered in quantitative analysis, water analysis, etc.

Text-books required—Inorganic Chemistry Syllabus and Laboratory Notes on Qualitative Analysis, prepared by the department.

PROSTHETIC DENTISTRY.

The work in this year is entirely technical and includes the consideration of impression materials of different kinds and their properties; taking impressions, making casts and models; making upper and lower retaining plates for a fellow student's mouth; after which the upper is broken and repaired; making partial upper plate with rubber base, comprising the making of trial plate, taking bite, mounting case in articulator, grinding and arranging teeth for proper articulation, flasking, packing, vulcanizing and finishing. Making full upper and lower sets of teeth upon rubber base, using plain teeth and arranging same in accordance with the Bonwill law of articulation; making full upper and lower swaged metal plates, comprising the making of models, molding in sand, casting dies and counter-dies; swaging plate to fit model, soldering rim and grinding and polishing metal. Making lower cast-metal plate, comprising the making of models and moulds, casting and polishing.

SECOND YEAR.

ANATOMY.

Splanchnology.

Descriptive and topographical anatomy of the thoracic viscera, the alimentary and urino-genital organs. Lectures and recitations, 3 hours each week, for 10 weeks.

Descriptive and Surgical Anatomy.

Head, neck, trunk and extremities. Lectures and recitations, 3 hours each week, for 12 weeks.

The Nervous System.

Cerebro-spinal axis and its membranes; the cranial and spinal nerves; the sympathetic nervous system; and the special-sense organs. Lectures and recitations, 3 hours each week, for 8 weeks.

Text Books Required.

Morris' Anatomy. Edinger's Anatomy of Brain and Cord.

Dissecting. The work extends over a period of eight weeks, requiring 15 hours each week. The dissection of the entire human body is required. The method of work follows that laid down in Holden's Manual of Dissections.

MATERIA MEDICA.

Pharmacology. This course includes the study of the general characteristics of drugs and their physiological action, with a comprehensive classification and description of remedies employed in dentistry. Lectures, recitations and laboratory work.

PATHOLOGY AND THERAPEUTICS.

The instruction in this branch will begin with a consideration of the terminology belonging to the subject, followed by the presentation of the lesions of inflammation, local and general, and the degenerate changes in the tissues.

The general character of tumors, practical consideration of pathological dentition, pyorrhœa alveolaris, pulpitis, pulp nodules, secondary dentine, pericementitis, alveolar abscess, caries of jaw, and necrosis dependent on a diseased condition of the teeth, the various inflammations of the oral cavity, including syphilis and tuberculosis, will all receive due attention.

Text-book required—Burchard.

Therapeutics. This course is given by lectures and recitations, and clinically. The student being instructed in the special therapeutics of dental and oral diseases; systematic treatment, in cases requiring it, receives due consideration. New remedies that give promise of value are fully studied and put to practical test in the infirmary, under direct supervision. Antiseptic and disinfectant methods, as well as dental hygiene, also receive due attention.

OPERATIVE DENTISTRY.

Didactic. Lectures and recitations illustrated by lantern slides, charts, heroic models and physical apparatus will be given on cavity classification and nomenclature, instrument nomenclature and instrumentation, removal of deposits, rubber dam and exclusion of moisture; cavity preparation, the enamel in its relation to cavity margins; sensitive dentine and pulp treatment; conservative and radical, including discoloration, its cause and treatment; canals, their cleansing and filling; matrices; separating teeth and correcting interproximate space; preparation and insertion of filling materials, including inlays; finishing fillings; clinical operations in their relation to vital tissue, including a review of the technic of conservative operations; the conduct of a practice.

Both junior and senior classes attend these lectures and stand quiz. The questions to each class vary according to their work. An examination will be held at the close of each subject.

Technical. The course of technics which is given at the beginning of this year includes the formation of typical cavities in plaster models, vulcanite and ivory teeth; Protecting nearly exposed pulps, and capping exposed pulps; gaining access to canals; cleansing and filling canals with various materials, subsequently examining them to note results; application and retention of the rubber dam; preparing and inserting the various filling materials, gutta percha, cements, amalgams, tin and gold. *This work must be completed in the first semester.*

Clinical. Students enter the infirmary at the beginning of the second semester if their technic work is complete. No student will be assigned patients until his work is completed.

Before beginning work upon patients, students are given an "infirmary drill" in which they are taught to meet patients, adjust the chair, make examinations, remove deposits and cleanse the teeth, and to apply the rubber dam. In the Infirmary, students are under

the immediate supervision of the instructors of this branch, who teach them how to diagnose, treat, and prognose cases, beginning with those requiring the simplest service and progressing as their skill increases. This intimate association of the technical and clinical enhances the value of the former and facilitates progress in the latter. Each operation is first presented to the student by a demonstration given by the instructor.

Text books required. American Text Book Operative Dentistry. Reference, Johnson's Principles and Practice of Filling Teeth.

PROSTHETIC DENTISTRY.

Didactic. Lectures and recitations will cover the various bases used in mounting artificial teeth, their characteristics and preparation, porcelain teeth, their composition, form and color as related to the several temperamental types and their forms as adapted to the various kinds of bases. The preparation of the mouth for artificial dentures, and various methods in use for their retention will be fully considered.

Technical. Making upper swaged plate of german silver, mounting plain teeth thereon to articulate with model of lower natural teeth. Making upper combination swaged metal and rubber plate, mounting gum-section teeth thereon to articulate with lower cast metal plate. Making partial lower swaged metal plate with reinforcement and clasps. Making partial upper swaged metal plate with teeth attached by soldering. Making lower cast metal plate, casting metal around lingual side of teeth and forming gum upon labial and buccal sides with pink rubber. Making lower swaged aluminum plate with turned rim.

Clinical. The student enters the infirmary this year upon completion of the technic course, and puts into practice the principles there acquired.

Text-book required. Essig's American Text-book of Prosthetic Dentistry.

ORTHODONTIA.

The work in this year is technical and includes a consideration of material for regulating appliances. German silver, its properties, annealing and tempering; drawing wire, making tubing and band material, constructing bands with screw; jack-screws of different forms, rotation and expansion appliances, retractors and retainers.

The properties of steels, forging, hardening, tempering and polishing, the making of excavators and chisels, band drivers, band removers and wrenches or keys. Making taps for threading nuts, etc. Each operation is performed by the student after a demonstration by the teacher.

Text-book required. Guilford's Orthodontia.

CROWN AND BRIDGE-WORK.

Didactic. The work of this year is didactic and technical. Lectures and recitations will cover the preparation of roots for gold, porcelain and porcelain-faced crowns. The principle of construction and attachment of the various kinds of crowns and bridge-work will be fully taught.

Technical. Preparing root for post, grinding, setting porcelain crown without band. Preparing root for porcelain crown with band, measuring root, making band to fit same. Construction of the crown. Gold shell crown, making band, swaging, reinforcing and fitting cap, assembling, soldering, finishing and setting upon root. Making cap and post for porcelain-faced crown, grinding, fitting, backing and attaching face to cap, finishing and setting upon root. Making gold and porcelain-faced dummies and assembling the same with crown to form a bridge.

Text-book required. Essig's American Text-book of Prosthetic Dentistry.

THIRD YEAR.

BACTERIOLOGY AND PATHOLOGY.

Bacteriology. Lectures, recitations and laboratory work, a short general survey of the problems brought to light by bacteriology, and general methods and technique involved, will be followed by special study of certain microorganisms, such as pyogenic cocci, B. tuberculosis, B. Diphtheriae, etc. These studies will be pursued by means of actual cultivation on the various media, the making and examination of microscopic preparations of

pure cultures, and both cultivation from and microscopic examination of infected tissues and fluids of the body, by the students themselves.

Text-book. Muir & Ritchie.

Pathology. Lectures, recitations and laboratory work. Special study of inflammations and the histological changes occurring in the tissues and fluids, constitutes the major portion of this course. Some attention is given to the degenerations and the subject of tumors with special reference to the face and oral cavity. Students prepare and examine many of the specimens and receive loan slides of the rarer types, or those difficult of preparation.

ORAL SURGERY.

The subject of oral surgery will be taught clinically and didactically. The large amount of clinical material presenting at the infirmary, furnishes ample opportunity for practical demonstration. Students are required to take charge of cases and carry them through under the advice of the instructor in charge. The didactic lectures will include a full consideration of all the surgical lesions of the oral cavity and associate parts, including oral tumors and the reflex neuroses connected with the fifth pair of nerves; fractures of the maxillæ; cleft palate and hare-lip; caries and necrosis of the jaws from constitutional causes; adenoid growths and nasal polypi in their relation to oral surgery; suppuration of the antrum; ulitis; epulic growths; fungoid pulp; ranula; exostosed teeth; ankylosis and dislocations, implantations, obturators, interdental and other forms of dental splints.

Arrangements have been made with several clinicians connected with the different hospitals of the city to give special clinics. An abundance of material representing all the different forms of diseased conditions of the mouth and associate parts is to be found in the infirmary service, which will be assigned to students for treatment under direction of the professor of oral surgery.

Clinical lectures on the cases presenting will be given from time to time. These cases include alveolo-dental abscesses; caries and necrosis of the maxillary bones; diseased condition of the antrum; pyorrhœa-alveolaris; dislocations and ankylosis; facial neuralgias; tumors of the mouth and associate parts; hare-lip, cleft-palate; implantation cases and fractures.

Text-book required. Marshall's Oral Surgery.

ORTHODONTIA.

Didactic. Lectures and recitations upon the classification of irregularities of the teeth etiology, local and constitutional, evils arising from; various systems of appliances used in treatment of; materials and details of their construction.

Clinical. In this year an ample clinic affords opportunity for each student to treat cases of irregularity. He will be allowed to use such of the technical material, which he has constructed, as is necessary. The correction of at least one case is obligatory.

Text-book required. Guilford's Orthodontia.

OPERATIVE DENTISTRY.

Didactic. The lectures on operative dentistry are delivered to both second and third year classes. All will be required to attend and to stand "quiz." The questions to the senior class will bear more upon the application of principles in practice. An examination will be held at the conclusion of each subject.

Clinical. Many clinics demonstrating advanced operations and peculiar methods are given in this year. The student has ample opportunity to put these methods into practice; he will also give special attention to the different forms of pathological lesions that pertain to daily office practice, and will carry cases to completion, including the restoration of the teeth to usefulness by filling, crowning or bridging, as the case may require. All operations will be marked and the record so made, together with a written examination on the didactic work, will form the final test in this branch.

Text-book required. Kirk's Operative Dentistry.

Reference. Johnson's Principles and Practice of Filling Teeth.

PROSTHETIC DENTISTRY.

Didactic. Lectures and recitations on obturators, their application and construction continuous-gum work and its application and construction,

Technical. The construction of vulcanite and metal plates employing the various methods of rigid retention, and the construction of continuous-gum plates.

Clinical. In this year the student does the more complicated operations of this branch. The rarer cases which appear in the clinic are all utilized to the advantage of the entire class.

Text-book required. Essig's American Text-Book of Prosthetic Dentistry.

METALLURGY.

Didactic. This subject will be treated in the following order: Metallurgical terms processes, and the principles upon which they are based; the various metals and their ores; process of extraction and refining; their properties and application in the arts, especially in dentistry; alloys, general, and those used in dental amalgams. Lectures and recitations once a week throughout the year, written quizzes monthly.

Technical. Refining of gold and silver, producing pure metals from scraps and filings. Making alloys for plate, crown and bridge-work, solders and alloys for dental amalgams.

Special attention is given to the melting, casting, cutting, annealing and testing of dental amalgam alloys. Each student will be required to provide metal scraps for refining and metals for amalgam alloys, with which to produce by the processes named, metals and alloys which shall be retained by him for future use.

Text-book required. Hodgen's Practical Dental Metallurgy.

CROWN AND BRIDGE-WORK.

Technical. The construction of porcelain crowns and bridges, and crowns with attachments for the rigid retention of the same.

Clinical. The student in this year will perform practical operation in the mouth, covering all forms of crown and bridge-work.

Text-book required. Essig's American Text-book of Prosthetic Dentistry.

PHYSICAL DIAGNOSIS AND ANÆSTHESIA.

The subject of physical diagnosis will be taught didactically and practically, and will have direct bearing upon the subject of anæsthesia and will be as complete as its importance demands. A course of urinalysis will be given in connection with this course.

The technics of anæsthetics, both general and local, receive full consideration. All anæsthetics are administered in the clinic, and full instruction concerning their use is given. The members of the senior class are required, under direction, to administer them and extract teeth under these agents.

Text-books required. Tyson, Physical Diagnosis and Turnbull's Manual of Anæsthetics.

STUDENTS' DENTAL SOCIETY.

In this year a society is organized, which is under the direct supervision of the faculty, and is made a part of the course of instruction. Every third year student is required to prepare an original paper upon some dental, or allied topic, to be read before and discussed in open meeting. The meetings will commence the first week in October.

RECAPITULATION.

FIRST YEAR.

Anatomy—Lectures and recitations.

Physiology—Lectures and recitations.

Histology and embryology—Lectures and laboratory.

Chemistry—Lectures and laboratory.

Dental anatomy—Lectures and laboratory.

Prosthetic technics—Laboratory.

SECOND YEAR.

Anatomy—Lectures and laboratory.

Pathology—Lectures and recitations.

Materia medica—Lectures and laboratory.

Therapeutics—Lectures, recitations and clinical.
Operative dentistry—Lectures, technical and clinical.
Prosthetic dentistry—Lectures, technical and clinical.
Orthodontia—Technical.
Crown and bridge-work—Lectures, recitations and technical.

THIRD YEAR.

Bacteriology and pathology—Lectures, recitations and laboratory.
Oral surgery,
Physical diagnosis, } Lectures and clinical.
Anæsthesia,
Orthodontia—Lectures, technics and clinical.
Operative dentistry—Lectures and clinical.
Prosthetic dentistry—Lectures, technical and clinical.
Crown and bridge-work—Technical and clinical.
Metallurgy—Lectures and technical.
Students' Dental Society.

GENERAL INFORMATION.

THE COLLEGE YEAR.

The fourteenth annual session of this college opens Wednesday, September 11th, 1901, and closes on Thursday, May 29th, 1902.

The college year will be divided into semesters, the first ending January 25th, 1902. The succeeding week will be devoted to the midwinter examinations. The second semester begins February 4th. The lecture courses will close May 17th, when the final examinations of the year begin.

Practical work for both the senior and junior classes will continue until May 29th.

The technic and laboratory courses begin immediately upon the opening of the school, the classes being called Wednesday, September 11th. The lecture courses commence Tuesday, September 24th.

Commencement exercises will occur in common with the other departments of the University, on Thursday, June 5th, 1902.

All statements in this announcement as to courses of study, conditions, requirements or fees, have reference to or binding force only upon the session of 1901-1902, unless otherwise definitely stated.

QUALIFICATIONS FOR MATRICULATION.

The examination for admission commence Tuesday, September 3d, and will be conducted by a committee appointed by the president, from the college of science, literature and the arts, of the University.

Examinations are held only in the English language.

Information as to where the examinations are held, may be obtained in the registrar's office in the library building.

Prospective students should not fail to bring their credit certificates with them.

The requirements for the session of 1901-1902 are the same in amount, as for admission to the freshman class of the college of science, literature and the arts, and are as follows:

N. B.—Time element, as indicated with each subject, is essential.

A three years' course of reading in English classics.

English Composition, one year.

Algebra, elementary, one year.

Physics, one year.

Geometry, plane, one year.

Latin, two years.

In addition to the above named subjects, which are required, and for which substitutes cannot be accepted, applicants shall present evidence of preparation in six year credits, or their equivalent, to be chosen from the following list:

Latin.

Cicero, six orations, one year.

Vergil, six books, one year.

Greek.

Grammar, one year.

Anabasis, four books, one year.

German.

Grammar, one year.

Literature, one year.

French.

Grammar, one year.

Literature, one year.

English.

Latin element, one year.

Literature, one year.

History, Greece and Rome, one-half year.

England, one-half year.

Modern, one-half year.

Medieval, one-half year.

Senior American, one-half year.

Civics, one-half year.**Political Economy**, one-half year.**Physiology**, one year.**Chemistry**, one year.**Botany**, one-half or one year.**Zoology**, one-half or one year.**Astronomy**, one-half year.**Geology**, one-half year.**Physiography**, one-half year.**Geometry**, solid, one-half year.**Algebra**, higher, one-half year.

1. Graduates of any Minnesota State high School will be admitted without examination, provided—

- (1) That the school maintains a **full four-year course** of high school work.
- (2) That the applicant present to the dean, the principal's certificate showing the satisfactory completion of **all the studies required for admission.**
- II. Graduates of the **advanced courses of Minnesota normal schools** will be admitted upon the same terms as graduates of State high schools.
- III. Any Minnesota high school or academy **not under supervision of the State High School Board**, but requiring for graduation a **four-years' course**, exclusive of the common school branches, conforming **essentially in the distribution of time** to the entrance requirements of this college, **may be accredited** in all respects as are the State high schools.
- IV. **Graduates from schools in other states**, whose diplomas admit to **reputable colleges**, will be received, subject to the regulations that apply to graduates of Minnesota State high schools.
- V. Diplomas to be accepted must be accompanied by certificates showing studies taken, and amount of time spent on each.

ENROLLMENT.

The last day of enrollment for the session of 1901-1902, will be Wednesday, September 11th.

Students will be assigned seats in order of, and at the time of their matriculation. Such matriculation and assignment of seats will be had in the office of the registrar of the University, in the Library building. Students will then present themselves for examination; or for the approval of their evidence of preliminary qualification. Having received an entrance certificate from this committee, they will report to the dean of the college for admission and classification.

Seats in the amphitheatre, laboratory benches and lockers, as well as chairs and lockers in the infirmary, are assigned to students in the order of their matriculation, and when so assigned must not be exchanged for others without permission and registration.

Lockers and drawers are provided for the convenience of students, but the college will not be responsible for any personal losses of students.

It is of the utmost importance to students, that as soon as possible after enrollment, their addresses in the city should be on file in the Dean's office. Telegrams and other urgent messages have failed of prompt delivery by reason of neglect of this request. It is just as important that changes in address should be on file.

ADVANCED STANDING.

Applicants for advanced standing must pass the entrance examinations or present the usual equivalents.

They must furnish satisfactory evidence of time spent and subjects covered in previous professional studies and must present themselves at the

above dates and pass the examinations of all departments in which they wish to be exempt, if such examinations are deemed necessary by the professors in charge of the various departments.

All certificates pertaining to advanced standing must be presented to the dean who will send them to the respective professors for acceptance, or report of further requirements for acceptance.

No conditions of advanced standing will entitle the student to take the two years of any graded study coincidently.

Students will not be permitted to substitute private work in any branch for the regular college course work, excepting in the case of actual laboratory exercises done under the direct supervision of an instructor in the department, appointed by the chair and approved by the faculty. Examinations in such private laboratory work will be conducted by the chair.

Seniors in the college of science, literature and the arts who contemplate entering the department of medicine are permitted to elect courses in anatomy, histology and embryology, physiology and chemistry in this department in lieu of similar science courses in the college of science, literature and the arts. This election will be contributive toward the degrees given in both colleges. Reciprocally the college of dentistry accepts full courses, taken in the college of science, literature and the arts, in histology, physiology and chemistry in lieu of its first year's work in these branches

CONDITIONS.

Examinations of conditioned students and of applicants for advanced standing, in the common studies of the first and second year, are held in these branches, upon dates as published in the annual bulletin.

Students coming from other schools must make up their technic conditions under supervision of the instructors of this school, *at the convenience of the instructor.*

Conditions may also be removed at the close of each semester, at examinations held previous to the "mid-year," for this purpose.

No one can be classed as a junior or senior with more than two conditions.

Students will not be permitted to take advanced work in any graded study, until they have passed the lower branch, *e. g.*, materia medica and therapeutics.

Students will not be permitted to take examinations in the second year's work in any graded branch, until they have removed conditions in the first year's work of the same.

Students who carry conditions into a succeeding year may find a resultant conflict of study hours. In that event they will give preference to the unfinished studies of the lower or conflicting course.

No student will be eligible to final examinations in any year, who carries conditions of a previous year unremoved.

Candidates for graduation who carry conditions in studies of a previous year, must remove these conditions at the end of the first semester in order to be eligible for final examination.

ment of these charges will be submitted to the accountant, and such breakage and loss fees will be deducted by him from the breakage and loss deposit.

In cases when the damage to college or university property cannot be placed upon an individual, or when the student is shielded by his class, the charge will be assessed to the class.

TECHNICS.

One issue for each piece of work will be made by the college, which, in case of failure, loss, damage or destruction, must be replaced by the student.

The completed work may be retained by the student, upon payment of cost of materials.

No student can take advanced work in operative dentistry, prosthetic dentistry or orthodontia, until the technic work of the branch is completed.

INSTRUMENTS, BOOKS, TOOLS AND MATERIALS.

All students are required to provide themselves with instruments, books, tools and materials as prescribed by the college. These can be obtained in the city, with the usual discount to students. The first installment must be procured and be approved by the instructor before seats can be assigned in the technic laboratories.

COLLEGE MUSEUM.

Members of the dental profession, and others interested, are invited to contribute pathological specimens, casts of malformations, irregularities of the teeth, models, charts, drawings, etc., which may be useful as illustrative matter in the lecture rooms.

ALUMNI ASSOCIATION.

An association of the graduates of the college has its annual meeting during commencement week.

CLINICAL FACILITIES.

The opportunities for acquiring a practical knowledge of both operative and prosthetic procedures is unsurpassed, the material presenting in the infirmary clinic being more than ample for all purposes of instruction.

GRADUATION.

At the close of the third year, a student who has passed all examinations satisfactorily, receives the degree of Doctor of Dental Medicine (D. M. D.) upon the following conditions:

He must be twenty-one years of age.

He must have attended three full courses of instruction, the last of which must have been in this college.

He must have passed the full requirement in dissections and must have performed satisfactorily in the college all the required operations in operative and prosthetic dentistry.

Immorality, disorderly conduct, or a failure to conform to the rules of the college, will be deemed a sufficient bar to any student receiving his degree.

Under no circumstances are degrees *in absentia* conferred by this college.

No student will be recommended for graduation, except at the annual commencement in June.

Students failing to graduate will be required to pay a fee for completing unfinished work.

FEES AND EXPENSES.

The annual fee, which includes all charges for matriculation, lecture and laboratory courses, and dissections is, one hundred dollars, (\$100.00.)

One-half of this fee will be payable when the student matriculates. The accountant's receipt for the portion will entitle the holder to take entrance examinations and to classify. The second half will be payable at the opening of the second semester. These receipts must be presented to, and countersigned by the secretary of the college, before entering upon the work of each semester.

There is no fee for diploma upon graduation.

A breakage and loss deposit of five dollars (\$5.00) is required, when the fee for the first semester is paid.

If the applicant fails to pass the entrance examinations, his fee will be returned by the accountant.

In addition to the college fee, there is a rental fee of \$2.00 for a microscope, in each semester when its use is required, provided the student is not supplied with a satisfactory instrument.

There is also a rental fee of \$1.00 for microscope in the course of bacteriology in the third year. It is an advantage for the student to possess his own microscope, and assistance in the selection of one will be given when desired.

There are no free scholarships, and no students are received for less than the regular fee.

No student will be permitted to take final examinations until after all fees and charges have been paid.

After having entered upon the course of study, fees are not returnable, and no rebate will be recommended should a student discontinue work, but the faculty may recommend the application of a part to the succeeding year.

Senior students failing to graduate, will be required to pay a fee of ten dollars (\$10.00) for each subject examined in, subsequent to the close of the session in which the failure occurred. A fee of \$10.00 will also be charged for the completion of each branch of unfinished laboratory or practical work.

Rooms and board convenient to the college can be obtained at prices ranging from \$3.00 to \$5.00 per week, according to accommodations.

Furnished rooms without board, from \$5.00 to \$10.00, and unfurnished rooms from \$4.00 to \$7.00 per month.

A list of rooms and boarding places is kept by the secretary of the University Y. M. C. A., to whom inquiries or applications may be addressed.

From one hundred and fifty to one hundred and seventy-five dollars are necessary to defray the expenses of the first month. These include tuition, for first semester, board and room for the month, and books, instruments, tools and materials for the year, which must be purchased before commencing work. In order to avoid embarrassment the student should bring sufficient funds to cover these first expenses.

For blank forms, relating to admission, or further information, address DR. W. P. DICKINSON, Andrus Building, Minneapolis, Minn.

Students.

GRADUATES—CLASS 1900.

Adams, Eugene Franklin, Grand Forks, N. D.	Nelson, Louis, Lake Park.
Anderson, Frederick Edward, Red Wing.	Norris, George Washington, Tracy.
Bertram, Harry Wallace, Monticello.	Olson, Carl Gustaf, Minneapolis.
Busse, Theo. Christian, Shakopee.	Owre, Aeneas, Minneapolis.
Carlson, Hanphen Henry, Grove City.	Patterson, John Fayette, St. Paul.
Clarke, Joseph, Green Isle.	Revell, Aris Leroy, Minneapolis.
Cooper, Herbert Charles, McCauleyville.	Riley, Frank Freeman, Lakefield.
Costain, Elbert Pryor, Moorhead.	Robertis, Oscar Edwin, Cottage Grove.
Gloyd, William, Minneapolis.	Sommermeier, Edward Frederick,
Hintz, Charles August, Courtland.	Eau Claire, Wis.
Hoorn, Karl Hjalmar, Red Wing.	Sprague, Dan Eugene, Minneapolis.
Hutchin, Robert Clement, South St. Paul.	Swanson, Anton W., Vasa.
Kroehler, Benjamin George, Mound Prairie.	Thomas, Harry Estus, Ellendale, S. D.
Kershaw, Albert La Fayette, St. Paul.	Thorson, Axel Aasof, Rock Dell.
Knudson, John Frederick, Pelican Rapids.	Tyler, Homer Amos, Simpson.
Lamphere, Ralph Leo, Moorhead.	Whittmore, Morse Kitttridge, Glenwood.
Lockhart, Harry John, Pelican Rapids.	Wilson, Robert Barnes, St. Paul.
Munns, Edward Ernest, Minneapolis.	Zieger, Otto Charles, Owatonna.
Nelson, Harold James, Glencoe.	

THIRD YEAR, 38.

Ball, William Harrison, Morgan.	Moody, Adolph, Minneapolis.
*Beede, Thad Sheridan, Minneapolis.	Nelson, Orrin Chauncey, Manannah.
Billings, Wall Marion, Minneapolis.	Olson, Adolph, Minneapolis.
Brodeen, Albin, Minneapolis.	Osterberg, Alfred, Stockholm.
Brownlee, Wilber James, Fisher.	Owens, John Evans, Sleepy Eye.
Child, Harry Burr, Minneapolis.	Palmer, Ralph George, LeRoy.
Cox, Norman J., B. S., Mian., '98, Wasioja.	Pepper, Frederick William, Minneapolis.
Creelman, Ernest Everett, Parker's Lake.	Peregrine, Harry Granger, Winona.
Dahlgren, Bror Eric, Minneapolis.	Rhame, Walter Stevens, Minneapolis.
Doheny, Edward James, Green Isle.	Sargent, Will Ernest, Lowell, Mass.
Fletcher, Freeman Fowler, Red Lake Falls.	Smith, Ai Biley, Minneapolis.
Frodeen, Henry Emanuel, Minneapolis.	Stoudt, Frank Lawrence, Hastings.
Holmberg, John Louis, St. Peter.	Sweet, Cyril Fairman, Mankato.
Holmgren, Carl Johan, Minneapolis.	Thiebaud, James Earl, Minneapolis.
Jaehning, Herman Schmall, New Richmond.	Thompson, Thomas L., Peterson.
Jargo, Adam Boorman, Luverne.	Thorsen, Adolph Theodore,
Johnson, Martin Calvin, Minneapolis.	New Centreville, Wis.
Kennedy, John Duncan, Tracy.	Woehler, William Winfred, Waubay, S. D.
McNerthney, Michael James,	Works, William Joseph, Hawley.
Red Lake Falls.	Yates, Cecil Fred, New Ulm.

*First semester.

SECOND YEAR, 37.

Allen, Arthur Barrett, Grafton, Ill.
 Alther, Arthur Eugene, Minneapolis.
 Amundson, LaDuc, Estherville, Ia.
 Bacon, Dexter Sterling, Cannon Falls.
 Bathrick, Chester Aubrey, Rushford.
 Bettschen, Wm, Farnsworth, Berlin.
 Brown, James Scott, Theilman.
 Caine, Wm. Allen, Minneapolis.
 Carter, Cyrus Joseph, Minneapolis.
 Crandall, Charles Ray, Etter.
 Fish, Lawrence James, Minneapolis.
 Foster, Albert Ray, Minneapolis.
 Gunderson, Julius Lavine, Kenyon.
 Hickman, Carl Edward, Minneapolis.
 Jorgens, Carl Sophus, Minneapolis.
 Kaliher, Eugene Wm., Lake Fremont.
 Lafans, Walter Scott, Minneapolis.
 Lindsley, Wm. Sherman, Mankato.
 Meyer, Fred Sophus, Minneapolis.

Miller, Daniel Ralph, Duluth.
 Moorhouse, Franklin Elmer, Minneapolis.
 Moran, Michael, Mantorville.
 Oberg, Alfred Tion, St. Paul.
 Palmer, Walter Norman, Lisbon, N. D.
 Peterson, Plymouth Oscar, Minneapolis.
 Russell, Aubrey Herbert, Anoka.
 Sandy, Benj. Arthur, Minneapolis.
 Schacht, John, Minneapolis.
 Seaquist, Wm. Peter, Mankato.
 Smith, George Dwight, Minneapolis.
 Tift, J. Floyd, Minneapolis.
 Tuck, Lewis Edward, Minneapolis.
 Turner, Edward Warden, Minneapolis.
 Trondson, Alex. Samuel, Black River Falls,
 Wis.
 Vanstrum, Albin R., Minneapolis.
 Waddell, Loren Burton, West Mitchell, Ia.
 Wanous, Edwin Frank, Glencoe.

FIRST YEAR, 31.

Ahlstrom, Joseph Theodore, St. Peter.
 Bosel, Albert Christian, Henderson.
 Burns, Jay Hugh, Stewart.
 Cain, James Robert, West Concord.
 Clemmer, John J., Cresco, Iowa.
 Cole, Claude Lynn, Fergus Falls.
 Conley, Samuel Lewis, Cannon Falls.
 Cook, Michael Francis, Faribault.
 Crane, Emory Saxe, Minneapolis.
 Davies, Norman Llewelyn, Minneapolis.
 Day, Judson Leroy, Clinton Falls.
 Frankoviz, Frank Anton, Fergus Falls.
 Goodspeed, Henry Irwin, Waseca.
 Hagaman, Clarence Augustus, St. Paul.
 Hektner, Hans Christian, Mooreton, N. D.
 Huestis, Walter Clyde, Minneapolis.

Hull, Isaac Stephenson, St. Paul.
 Kuncke, Gustavus Adolphus, Henderson.
 Lasby, Wm. Frederick, Northfield.
 *Olsen, Ambrose Burtis, Minneapolis.
 Pattison, George Jay, Herman.
 Peterson, Ernest Francis, Minneapolis.
 Pike, Jay Nelson, Lake City.
 Prendergast, Frank, St. Paul.
 Spring, William J., Madison.
 Sparrow, Cecil Chester, Ortonville.
 Trench, James Francis, Dennison.
 Werring, Oscar Sidney, Sleepy Eye.
 Whitcomb, Harold Warren, Alexander.
 Williams, George Davis, Willmar.
 Yaeger, Frederick Spencer, Helena, Mont.

*Not in attendance.

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1899/1900

1899-1900

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



MEDICAL HALL.

The University

THE UNIVERSITY OF MINNESOTA comprises the following named colleges, schools and departments:

THE GRADUATE DEPARTMENT.

THE COLLEGE OF SCIENCE, LITERATURE AND THE ARTS.

The School of Technical and Applied Chemistry.

THE COLLEGE OF ENGINEERING AND THE MECHANIC ARTS.

THE SCHOOL OF MINES.

THE COLLEGE OF AGRICULTURE.

The School of Agriculture.

The Dairy School.

THE COLLEGE OF LAW.

THE DEPARTMENT OF MEDICINE, composed of colleges as follows :

The College of Medicine and Surgery.

The College of Homeopathic Medicine and Surgery.

The College of Dentistry.

The College of Pharmacy.

The Regents of the University have also entrusted to their charge

THE EXPERIMENT STATION ;

THE GEOLOGICAL AND NATURAL HISTORY SURVEY.

Catalogues of any department sent free to any address, upon application. The full catalogue will be sent only upon receipt of ten cents to cover postage. Address,

THE REGISTRAR,

University of Minnesota,

Minneapolis. Minn,

Board of Regents

The HON. JOHN S. PILLSBURY, MINNEAPOLIS,	-	-	-	-	<i>Regent for Life</i>
The HON. JOHN LIND, NEW ULM,	-	-	-	-	<i>Ex-Officio</i>
The Governor of the State.					
CYRUS NORTHROP, LL. D., MINNEAPOLIS,	-	-	-	-	<i>Ex-Officio</i>
The President of the University.					
The HON. JOHN H. LEWIS, B. A., HASTINGS,	-	-	-	-	<i>Ex-Officio</i>
The State Superintendent of Public Instruction.					
The HON. STEPHEN MAHONEY, B. A., MINNEAPOLIS,	-	-	-	-	1901
The HON. SIDNEY M. OWEN, MINNEAPOLIS,	-	-	-	-	1901
The HON. ALPHONSO BARTO, ST. CLOUD,	-	-	-	-	1902
The HON. THOMAS WILSON, ST. PAUL,	-	-	-	-	1902
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The HON. ELMER E. ADAMS, B. A., FERGUS FALLS,	-	-	-	-	1903
The HON. GREENLEAF CLARK, M. A., ST. PAUL,	-	-	-	-	1904
The REV. SAMUEL G. SMITH, D. D., ST. PAUL,	-	-	-	-	1904

OFFICERS.

The HON. JOHN S. PILLSBURY, *President.*

PRESIDENT CYRUS NORTHROP, LL. D., *Corresponding Secretary.*

STEPHEN MAHONEY, B. A., *Recording Secretary.*

JOSEPH E. WARE, *Treasurer.*
(St. Anthony Falls Bank.)

CALENDAR FOR 1899-1900.

1899.

1900.

JULY.

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College Calendar

1899

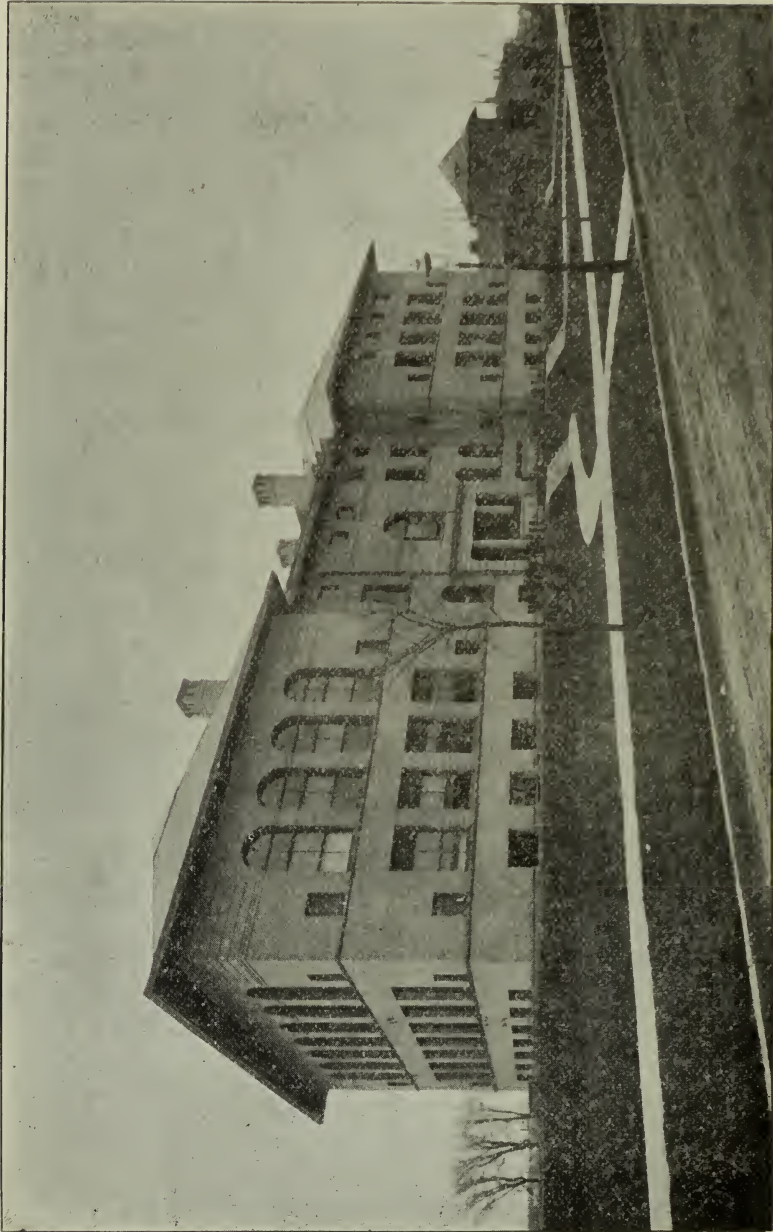
SEPTEMBER	5 Entrance examinations.
	12 Opening day.
	13 Work in technic laboratories and infirmary begins.
	21-22 Examination for conditions and advanced standing.
	26 Lecture courses begin.
NOVEMBER	30 THANKSGIVING DAY.
DECEMBER	23 Holiday vacation begins (no classes).

1900

JANUARY	9 Work resumed in all departments.
	27 First semester ends.
	28 to Feb. 5 Mid-term examinations.
FEBRUARY	6 Second semester begins.
	12 LINCOLN'S BIRTHDAY—Holiday.
	22 WASHINGTON'S BIRTHDAY—Holiday.
MAY	16 Second semester ends.
	21 Final examinations.
JUNE	1 Work in infirmary closes.

COMMENCEMENT WEEK.

SUNDAY	JUNE 3d.	BACCALAUREATE SERVICE,	-	-	-	3:00 P. M.
MONDAY	JUNE 4th.	SENIOR CLASS EXERCISES—Announcement by the class				
WEDNESDAY	JUNE 6th.	ALUMNI DAY.				
THURSDAY	JUNE 7th.	COMMENCEMENT DAY—The Twenty-eighth Annual Commencement.				
		Graduation Exercises,	-	-	-	9:00 A. M.
		Alumni Banquet and President's Reception,				2:00 P. M.
FRIDAY	JUNE 8th.	SUMMER VACATION BEGINS.				



LABORATORY OF MEDICAL SCIENCES.

The Department of Medicine

THE DEPARTMENT OF MEDICINE INCLUDES THE FOLLOWING NAMED COLLEGES.

The College of Medicine and Surgery.

The College of Homeopathic Medicine and Surgery.

The College of Dentistry.

The College of Pharmacy.

Each college is distinct in the government of its internal affairs, has its own faculty and an independent curriculum, excepting in the studies of anatomy, physiology, chemistry, histology and embryology. These studies, so far as they are required in each course, are pursued by all the students of the department in common.

BUILDINGS AND EQUIPMENT.

The department is resident in three buildings situated upon the University campus, viz: medical hall, the laboratory of medical sciences and the laboratory of chemistry.

Medical hall contains the offices of the deans of the college of medicine and surgery, of the college of homeopathic medicine and surgery and of the college of dentistry; the large amphitheatre and lecture rooms of the several colleges; the library and reading-room of the department; the dissecting-rooms and laboratories of anatomy; the operating-rooms and laboratories of dentistry; and the dental infirmary.

The laboratory of medical sciences is a building especially designed for laboratory uses. One wing of the building is occupied by the college of pharmacy and the department of physiology. It contains the office and private laboratory of the dean of the college of pharmacy, the pharmaceutical and botanical laboratories, the laboratory of organic chemistry, with preparation and stock rooms. The office of the secretary of the college of medicine and surgery, a large lecture amphitheatre, especially arranged for demonstrative work, the laboratories of physiology, physiological chemistry, practical dietetics, and operative surgery are also situated in this wing.

The center and opposite wing are occupied by the departments of histology and embryology, pathology and bacteriology. Each of these branches has its well-lighted laboratories, preparation-rooms and private study rooms

Upon the basement floor are the laboratory stock-rooms and the animal rooms devoted to physiological and bacteriological purposes.

A large laboratory upon the first floor is assigned to the bacteriological work of the State Board of Health.

The laboratory of chemistry is a one story brick building devoted entirely to the uses of this department. It is equipped with laboratories, preparation-rooms, store-rooms, and the private offices of the professor and demonstrator of chemistry.

The department of medicine is in intimate relationship, through its several faculties, with the hospitals, infirmaries and dispensaries of the cities of Minneapolis and St. Paul. Through these agencies it utilizes, for the benefit of its students, the clinical material of these two large centers of population. The location of the University near the interurban car line enhances the value and convenience of these clinical opportunities.

A medical library, containing some two thousand volumes and supplied with current periodicals, is open to all the students of the department. The collection has been chosen with special regard to the need for reference work and collateral reading. The general library of the University and the public libraries of Minneapolis and St. Paul are also open to the students of this department.

The legislature has provided for two new buildings in this department, which will be built during the ensuing summer. The anatomic laboratory building is to be one of these. It will be a two story and basement structure, 35 by 60 feet. In the basement will be provided a morgue, injecting room, cold storage vaults and engine and apparatus for an anhydrous ammonia freezing plant. On the first floor will be an amphitheatre, seating one hundred students, the private offices of the professors and instructors, a private dissecting room and a small laboratory for research work. The entire second floor will be devoted to laboratories for practical work in anatomy.

A clinical building will also be put up and equipped during the season and will be open for the session of 1899-1900. It will be situated in a part of the city most favorable to the development of an outdoor service. It will be of two stories and will cover 40 by 115 feet. It will afford ample floor space for amphitheatres, waiting rooms, pharmacy and class rooms for each of the clinical branches. Wards and laboratories, in which section work in medical and surgical diagnosis can be conducted, will be equipped.

The College of Dentistry

FACULTY.

CYRUS NORTHROP, L. L. D., *President.*

THOMAS E. WEEKS, D. D. S., 501 Dayton Building, *Professor of Operative Dentistry and Crown and Bridge-Work.*

WILLIAM P. DICKINSON, D. D. S., 511 Dayton Building, *Professor of Therapeutics and Clinical Professor of Operative Dentistry.*

THOMAS B. HARTZELL, D. M. D., M. D., 9 Syndicate Block, *Professor of Pathology and Oral Surgery.*

OSCAR A. WEISS, D. M. D., 506 Masonic Temple, *Professor of Prosthetic Dentistry and Orthodontia.*

OTHER INSTRUCTORS,

GEO. A. HENDRICKS, M. S., M. D., Guaranty Loan Building, *Professor of Anatomy.*

CHARLES A. ERDMANN, M. D., 802 Dayton Building, *Assistant Professor Anatomy.*

RICHARD O. BEARD, M. D., 713 Dayton Building, *Professor of Physiology.*

CHARLES J. BELL, A. B., University of Minnesota, *Professor of Chemistry.*

THOMAS G. LEE, A. M., M. D., University of Minnesota, *Professor of Histology and Embryology.*

HENRY M. BRACKEN, M. D., 1010 Fourth St. S. E., *Professor of Materia Medica.*

FRANK F. WESBROOK, M. A., M. D., C. M., 328 Tenth Ave. S. E., *Professor of Bacteriology and Pathology.*

FRANK R. WRIGHT, D. D. S., M. D., 403 Dayton Building, *Lecturer on Anæsthesia and Chief of Anæsthetic Clinic.*

ALFRED OWRE, D. M. D., M. D., C. M., 405 Masonic Temple, *Instructor in Metallurgy and Operative Dentistry.*

MARY V. HARTZELL, D. M. D., 9 Syndicate Block, *Instructor in Dental Anatomy.*

H. M. REID, D. D. S., 423 Medical Block, *Instructor in Prosthetic Dentistry.*

E. FRANKLYN HERTZ, D. M. D., 511 Dayton Building, *Instructor in Prosthetic Dentistry.*

JAMES O. WELLS, D. M. D., 9 Syndicate Block, *Instructor in Crown and Bridge-Work.*

ANNOUNCEMENT.

The College of Dentistry of the University of Minnesota offers a progressive course of study which covers three terms of nine months each, in three separate calendar years. Classes are graded as first, second and third year. Students who successfully pursue this course are given the degree D. M. D. (doctoris in medicina dentaria), which entitles them to come before any state board of dental examiners for a license to practice dentistry in that state.

The central idea upon which this institution was founded, is that dentistry is a branch of the healing art, and that the practitioner should possess a medical education, hence the curriculum has been broadened so as to include the fundamental principles that underlie the practice of medicine. In this connection special attention is called to the fact that while a thorough course is required, practical work is not neglected. The technical courses are very complete and the clinical facilities are unsurpassed.

Another special feature of this institution is that in laboratory work and infirmary practice, students at all times operate under competent instructors, the professors themselves serving as demonstrators, and every stage of each operation receives due criticism and marking.

COURSES OF INSTRUCTION.

FIRST YEAR.

ANATOMY.

Osteology. Lectures and recitations, covering a thorough study of the human skeleton, and supplementary work on the osteology of domestic mammals; three hours each week, for ten weeks of first semester. Laboratory work on the human skeleton; class in sections, two hours each section, for ten weeks, first semester.

Syndesmology. Lectures, recitations and laboratory demonstrations. Three hours each week, for four weeks, first semester.

Myology. Lectures and recitations, covering the entire muscular system of the human body with supplementary study of comparative myology; three hours each week, sixteen weeks. Laboratory work consists of identifying the muscles of the human body on dissected preparations and showing their actions. Class in sections, four hours each week, for five weeks. Also attendance upon lectures on descriptive, topographical and surgical anatomy, two hours per week.

Text-book required—Quain's Anatomy, 10th edition, Vol. II, parts 1 and 2, or Gray's Anatomy.

DENTAL ANATOMY.

The subject is taught by a thorough laboratory course, in which the student studies the teeth by dissections, modelling, carvings and drawings. In the study of dental anatomy, human and comparative, the definition, terminology, notation, form and arrangement of the teeth will be fully considered, also macroscopic and microscopic characteristics of sections, including the study of the relation of enamel to dentine and of the pulp canal.

In the study of structural anatomy, teeth will be selected and mounted upon wooden blocks. They will then be filed down until the pulp chamber and canals are exposed, and drawings from actual measurements of the different aspects will then be made and carefully studied.

The didactic instruction will be in nature of "chalk talks" and recitations from Black's Dental Anatomy. The standing of the student will be determined by marks given on the cutting of sections, models, drawings and recitations.

Text-book required—Black's Dental Anatomy and Week's Operative Technics.

PHYSIOLOGY.

The subject is taught by recitations and lectures illustrated by practical demonstrations. These embrace the discussion, and as far as possible, the observation of physiological ingredients of the animal body; of the physiology of cell life or the fundamental properties of the cell; the nutritive media, blood, lymph and chyle; of the elementary functions of the nervous system; of the muscular tissues, and the epithelial tissues; of the vascular mechanism; of the alimentary canal; of the organs of secretion, excretion and respiration.

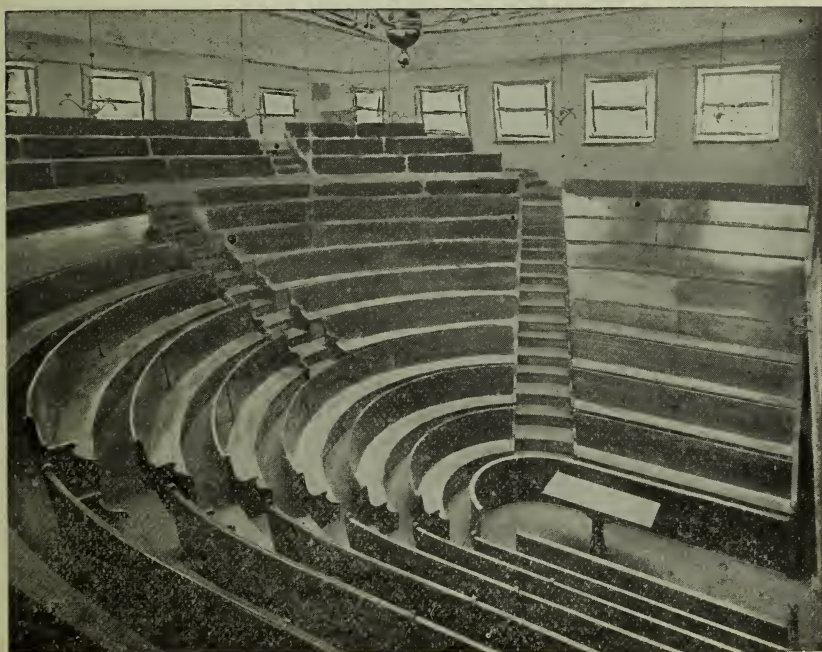
Text-book required—Foster's Physiology.

HISTOLOGY AND EMBRYOLOGY.

This course will consist of lectures, recitations, laboratory work and demonstrations, and will include a study of the structure and properties of protoplasm; the cell, its structure



LABORATORY OF HISTOLOGY AND EMBRYOLOGY—44x72.



AMPHITHEATRE.

and properties, cell division, reproduction, ovum, spermatozoon, and formation of blastoderm. A study of the structure and life history of certain type forms of unicellular animals and plants, as *amœba paramœcium* yeast, *sperogyra*, etc., simple metazoa, as *hydra*, etc.; a consideration of the structure of vertebrates; the tissues, as epithelium, connective tissue, cartilage, bone, etc., muscle, nerve, blood and lymph; vascular and lymphatic system. The teeth, enamel, dentine, cementum, pulp, etc. A general outline of the development of the embryo; the formation of the head; development of the jaws, teeth, oral cavity, glands, etc.

First semester, recitations, four hours per week; laboratory, six hours per week.

Text-book required—Stöhr's Histology.

CHEMISTRY.

Lectures on inorganic chemistry. Laboratory. General chemistry and qualitative analysis. Laboratory analysis of alloys.

Text-book required—Remsen's Chemistry.

PROSTHETIC DENTISTRY.

The work in this year is entirely technical and includes the consideration of impression materials of different kinds and their properties; taking impressions, making casts and models; making partial upper plate with rubber base, comprising the making of trial-plate, taking bite, mounting case in articulator, grinding and arranging teeth for proper articulation, flaking, packing, vulcanizing and finishing; this plate is then broken and repaired and must fit the model when completed. Making full upper and lower sets of teeth upon rubber base, using plain teeth and arranging same in accordance with the Bonwill law of articulation; making full upper and lower swaged metal plates, comprising the making of models molding in sand, casting dies and counter-dies; swaging plate to fit model, soldering rim and grinding and polishing metal. Making lower cast-metal plate, comprising the making of models and moulds, casting and polishing.

The properties of steels, forging, hardening, tempering and polishing, the making of excavators and chisels, band drivers, band removers and wrenches or keys. Making taps for threading nuts, etc. Each operation is performed by the student after a demonstration by the teacher.

Text-book required—Essig's Prosthetic Dentistry, or Richardson.

SECOND YEAR.

ANATOMY.

I. Splachnology. Lectures on the thoracic, abdominal and pelvic viscera, two hours each week, for 10 weeks. Laboratory work. Demonstrating and dissecting the thoracic, abdominal and pelvic organs of the human subject, or of the dog or sheep.

II, Splachnology. Descriptive and topographical anatomy of the thoracic viscera, the alimentary and urino-genital organs. Lectures and recitations, three hours each week, for 10 weeks.

III. Descriptive and surgical anatomy. Head, neck, trunk and extremities. Lectures and recitations, three hours each week, for 12 weeks.

Text-book required—Quain's Anatomy, 10th edition, or Gray's Anatomy.

IV. Dissecting. The work extends over a period of eight weeks, requiring 15 hours each week. The dissection of two parts is required. The method of work follows that laid down in Holden's Manual of Dissections.

MATERIA MEDICA AND THERAPEUTICS.

I. Pharmacology. This course includes the study of the general characteristics of drugs and their physiological action, beginning with a comprehensive classification of remedies employed in dentistry. Lectures, recitations and laboratory work. Until holiday vacation.

Text-book required—Bracken's Materia Medica.

II. Therapeutics. This course is given by lectures and recitations, and clinically. The student being instructed in the special therapeutics of dental and oral diseases; systemic treatment, in cases requiring it, receiving due consideration. New remedies that give promise of value are fully studied and put to practical test in the infirmary under direct supervision. Antiseptic and disinfectant methods also receive due attention. After holiday vacation.

Text-book required—Gorgas' Dental Medicine.

PATHOLOGY.

The instruction in this branch will begin with a consideration of the terminology belonging to the subject, followed by a presentation of the lesions of inflammation, local and general, and the degenerate changes in the tissues.

The general character of tumors, practical consideration of pathological dentition, pyorrhœa alveolaris, pulpitis, pulp nodules, secondary dentine, pericementitis, alveolar abscess, caries of jaw, and necrosis dependent on a diseased condition of the teeth, the various inflammations of the oral cavity, including syphilis and tuberculosis, will all receive due attention.

Text-book required—Delafield and Prudden.

OPERATIVE DENTISTRY.

Didactic. Lectures and recitations, covering the influence of form and arrangement of the teeth as a predisposing cause of caries. Deposits and their removal; classification and preparation of cavities; filling materials, their preparation and insertion; pulp treatment, radical and conservative; mechanical principles of force and resistance; exclusion of moisture; separation of teeth; contour, contact and occlusion and the use of the matrix.

An examination will be held at the close of each subject.

Technical—The course of technics which is given at the beginning of this year includes the formation of typical cavities in plaster models and natural teeth. Preparing and inserting the various filling materials—gutta percha, cements, amalgam, tin and gold. Protecting nearly exposed pulps, and capping exposed pulps; treating and filling pulpless teeth, gaining access to canals, cleaning and filling them with various materials, subsequently examining them to note results. The application and retention of the rubber dam, etc.

Clinical. Students enter the infirmary as soon as they have mastered sufficient of the technics to warrant their admission. Here they are under the immediate supervision of the instructors in this branch, who teach them how to meet patients, diagnose, treat and prognose cases, beginning with those requiring the simplest service and progressing as their skill increases. This intimate association of the technical and clinical enhances the value of the former and facilitates progress in the latter. Each operation is first presented to the student by a demonstration given by the instructor.

Text-book required—Weeks' Operative Technics.

PROSTHETIC DENTISTRY.

Didactic. Lectures and recitations will cover the various bases used in mounting artificial teeth, their characteristics and preparation, mineral and porcelain teeth, their composition, form and color as related to the several temperamental types and their forms as adapted to the various kinds of bases. The preparation of the mouth for artificial teeth and various methods in use for their retention will be fully considered.

Technical. Making upper swaged plate of german silver, mounting plain teeth thereon to articulate with model of lower natural teeth. Making upper combination swaged metal and rubber plate, mounting gum section teeth thereon to articulate with lower natural teeth. Making partial lower swaged metal plate with reinforcement and clasps. Making partial upper swaged metal plate with teeth attached by soldering. Making lower cast metal plate, casting metal around lingual side of teeth and forming gum upon labial and buccal sides with pink rubber.



LABORATORY OF PATHOLOGY AND BACTERIOLOGY—44X72.

Clinical. The student enters the infirmary this year upon completion of the technic course, and puts into practice the principles there acquired.

Text-book required—Essig's Prosthetic Dentistry, or Richardson.

ORTHODONTIA.

The work in this year is technical and includes a consideration of material for regulating appliances. German silver, its properties, annealing and tempering; drawing wire, making tubing and band material, constructing bands with screw; jack-screws of different forms, rotation and expansion appliances, retractors and retainers.

Text-book required—Guilford's Orthodontia.

CROWN AND BRIDGE WORK.

Didactic. The work of this year is didactic and technical. Lectures and recitations will cover the preparation of roots for gold, porcelain and porcelain-faced crowns. The principles of construction and attachment of the various kinds of crowns and bridge-work will be fully taught.

Technical. Preparing root for post, grinding, setting porcelain crown without band. Preparing root for porcelain crown with band, measuring, root, making band to fit same. Construction of the crown. Gold shell crown, making band, swaging, reinforcing and fitting cap, assembling, soldering, finishing and setting upon root. Making cap and post for porcelain-faced crown, grinding, fitting, backing and attaching face to cap, finishing and setting upon root. Making gold and porcelain-faced dummies and assembling the same with crown to form a bridge.

Text-book required—Essig's Prosthetic Dentistry.

THIRD YEAR.

PATHOLOGY.

The course in this year includes lectures, recitations and practical work in the laboratory, beginning with the study of inflammation, giving particular attention to the minute changes occurring in the tissues; inflammation in bone; chemiotaxis and phagocytosis demonstrated; the history of an abscess; the degenerations; and the study of tumors, with special reference to those growths most common to the face and oral cavity.

Text-book required—Delafield and Prudden.

BACTERIOLOGY.

Lectures and recitations, illustrated by microscope; preparations and culture of various pathogenic bacteria; laboratory exercises in staining and diagnosing pathogenic bacteria. Opportunity will be offered in the laboratory for special research work.

Text-book required—Abbott.

ORAL SURGERY.

The subject of oral surgery will be taught clinically and didactically. The large amount of clinical material presenting at the infirmary, furnishes ample opportunity for practical demonstration. Students are required to take charge of cases and carry them through under the advice of the instructor in charge. The didactic lectures will include a full consideration of all the surgical lesions of the oral cavity and associate parts, including oral tumors and the reflex neuroses connected with the fifth pair of nerves; fracture of the maxilla; cleft palate and hare-lip; caries and necrosis of the jaws from constitutional causes; adenoid growths and nasal polypi in their relation to oral surgery; suppuration of the antrum; ulitis; epulis; fungoid pulp; ranula; exostoses and fused teeth; ankylosis and discolorations, implantations, obturators, interdental and other forms of dental splints.

Arrangements have been made with several clinicians connected with the different hospitals of the city to give special clinics. An abundance of material representing all the dif-

ferent forms of diseased conditions of the mouth and associate parts is daily to be found in the infirmary service, which will be assigned to students for treatment under direction of the professor of oral surgery.

Clinical lectures on the cases presenting will be given from time to time. These cases include alveolo-dental abscesses; caries and necrosis of the maxillary bones; diseased condition of the antrum; pyorrhea-alveolaris; dislocations and ankylosis; facial neuralgias; tumors of the mouth and associate parts; hare-lip, cleft-palate; implantation cases and fractures.

Text-book required—Marshall's Oral Surgery.

ORTHODONTIA.

Didactic. Lectures and recitations upon the classification of irregularities of the teeth; etiology, local and constitutional, evils arising from; various systems of appliances used in treatment of; materials and details of their construction.

Clinical. In this year an ample clinic affords opportunity for each student to treat cases of irregularity. He will be allowed to use such of the technical material, which he has constructed, as is necessary. The correction of at least one case is obligatory.

Text-book required—Guilford's Orthodontia.

OPERATIVE DENTISTRY.

Didactic. The lectures and recitations of this year will include, the relation of the deciduous to the permanent teeth and their treatment; sensitive dentine and its control; erosion and abrasion; bleaching teeth; and inlays of porcelain and gold. Examinations will be held at the conclusion of each subject and a general review will be had at the close of the year.

Clinical. Many clinics demonstrating advanced operations and peculiar methods are given in this year. The student has ample opportunity to put these methods into practice; he will also give special attention to the different forms of pathological lesions that pertain to daily office practice, and will carry cases on to completion, including the restoration of the teeth to usefulness by filling, crowning or bridging, as the case may require. All operations will be marked and the record so made, together with a written examination on the didactic work, will form the final test in this branch.

Text-book required—Kirk's Operative Dentistry.

PROSTHETIC DENTISTRY,

Didactic. Lectures and recitations on obturators, their application and construction, continuous-gum work and its application and construction.

Technical. The construction of vulcanite and metal plates employing the various methods of rigid retention, and the construction of continuous-gum plates.

Clinical. In this year the student does the more complicated operations of this branch. The rarer cases which appear in the clinic are all utilized to the advantage of the entire class.

Text-book required—Essig's Prosthetic Dentistry, or Richardson.

METALLURGY.

Didactic. This subject will be treated in the following order: Metallurgical terms, processes and the principles upon which they are based; the various metals and their ores; processes of extraction and refining; their properties and application in the arts, especially in dentistry; alloys, general, and those used in dental amalgams. Lectures and recitations once a week throughout the year, written quizzes monthly.

Technical. Refining of gold and silver, producing pure metals from scraps and filings. Making alloys for plate, crown, and bridge-work, solders, and alloys for dental amalgams.

Special attention is given to the melting, casting, cutting, annealing and testing of dental amalgam alloys. Each student will be required to provide metal scraps for refining, and metals for amalgam alloys, with which to produce by the processes named, metals and alloys which shall be retained by him for future use.

Text-book required—Hodgen's Practical Dental Metallurgy.

CROWN AND BRIDGE-WORK.

Technical. The construction of porcelain crowns and bridges, and crowns with attachments for the rigid retention of plates.

Clinical. The student in this year will perform practical operations in the mouth, covering all forms of crown and bridge-work.

Text-book required.—Essig's Prosthetic Dentistry.

PHYSICAL DIAGNOSIS.

The subject of physical diagnosis will be taught didactically and practically. This course will have direct bearing upon the subject of anæsthesia and will be as complete as its importance demands.

Text-book required—Tyson, Physical Diagnosis.

ANÆSTHESIA.

This subject will be taught didactically and clinically, the technics of anæsthetics, both general and local, receiving full consideration. All anæsthetics are administered in the clinic, and full instruction concerning the use of them is given. The members of the senior class are required, under direction, to administer them and extract teeth under these agents.

Text-book—Turnbull's Manual.

STUDENTS' DENTAL SOCIETY.

In this year a society is organized, which is under the direct supervision of the faculty, and is made a part of the course of instruction. Every third year student is required to prepare an original paper upon some dental or allied topic, and present it to the secretary of the faculty before the holiday vacation. These papers will be marked by the chairs to which the topic belongs, and the eight students whose papers receive the highest marks will have the honor of presenting them before the society. Three members of the class will be required to prepare discussions of the subject of each, the essays being furnished them in advance for the purpose. The meetings will be held at half past seven o'clock, on evenings to be designated by the faculty, after the holiday vacation.

The junior class students are expected to be present, in order to become familiar with the details of conducting deliberative associations of this character.

RECAPITULATION.

FIRST YEAR.

Anatomy—Lectures and recitations.
Physiology—Lectures and recitations.
Histology and embryology—Lectures and laboratory.
Chemistry—Lectures and laboratory.
Dental anatomy—Lectures and laboratory.
Prosthetic technics—Laboratory.

SECOND YEAR.

Anatomy—Lectures and laboratory.
Pathology—Lectures.
Materia medica—Lectures and laboratory.
Therapeutics—Lectures, recitations and clinical.

Operative dentistry—Lectures, technical and clinical.
 Prosthetic dentistry—Lectures, technical and clinical.
 Orthodontia—Technical.
 Crown and bridge work—Lectures, recitations and clinical.

THIRD YEAR.

Pathology—Lectures.
 Bacteriology—Lectures, recitations and laboratory.
 Oral surgery,
 Physical diagnosis, } Lectures and clinical.
 Anæsthetics,
 Orthodontia—Lectures, technics and clinical.
 Operative dentistry—Lectures and clinical.
 Prosthetic dentistry—Lectures, technical and clinical.
 Crown and bridge work—Technical and clinical.
 Metallurgy—Lectures and technical.
 Students' Dental Society.

GENERAL INFORMATION.

THE COLLEGE YEAR.

The twelfth annual session of this college opens Tuesday, September 12th, 1899, and closes on the first Thursday in June, 1900.

The college year will be divided into semesters, the first ending January 27th, 1900. The succeeding week will be devoted to the midwinter examinations. The second semester begins February, 6th. The lecture courses will close May 19th, and the final examinations of the year commence May 21st.

Practical work for both the senior and junior class, will continue until June 1st.

The technic and laboratory courses begin immediately upon the opening of the school, the classes being called Wednesday, September 13th. The lecture courses commence Tuesday, September 19th.

Commencement exercises will occur in common with the other departments of the University, on Thursday, June 7th, 1900.

All statements in this announcement as to courses of study, conditions, requirements or fees, have reference or binding force upon the session of 1899-1900, unless otherwise definitely stated.

QUALIFICATIONS FOR MATRICULATION.

The examinations for admission commence Tuesday, September 5th, and will be conducted by a committee appointed by the President, from the College of Science, Literature and the Arts, of the University. All applicants will be required to present one of the following:

(1) The diploma of a recognized university or college conferring upon the holder the bachelor's degree.

(2) The diploma of a high school of the first grade of this or other states,

(3) The diploma of the advanced course of a Minnesota state normal school. Diplomas will not be accepted unless accompanied by certificate showing amount of work done, and these diplomas must in every case represent a year of Latin.

(4) Certificates of the Minnesota state high school board, or pass an examination in *English*. A composition of not less than 200 words, upon a subject to be announced at the time. Spelling, punctuation and grammatical construction will be considered.

Algebra, as covered in Olney's Elements.

Physics, as treated in Avery's or Gages' Elementary text-books.

Latin, covering declension, conjugation, construction, rules of grammar, and the translation of three books of Caesar, and

Plane geometry.

In addition to the above, certificates will be required, which shall represent the successful passing of two (2) terms of twenty (20) weeks, from the following studies, or passing an examination which shall be equivalent to the same. The certificates may be for one (1) term each from two (2) studies, or two (2) terms from one (1) study.

Language and literature, { Advanced English.
German.
French.

Mathematics. { Advanced Arithmetic.
Higher Algebra.

History. { United States.
General.

Physical Geography.

Physiology and Hygiene.

Students may carry one condition in any of the above subjects, English excepted, during their first year; which condition must be removed before entering upon the work of the second year.

In 1900, the requirements will be the same as for admission to the freshman class of the college of science, literature and the arts. They be as follows:

1. English composition and rhetoric.
2. United States history.
3. History of Greece and Rome.
4. Physiology.
5. Physics.
6. Algebra.
7. Geometry.
8. Latin grammar; Cæsar, four books; Cicero, four orations; Virgil, four books;
- or*
9. German or French, in lieu of Cicero and Virgil.

ENROLLMENT.

All students *must be enrolled not later than September 22nd*.

This is in accordance with a rule of the National Association of Dental Faculties; of which this College is a member, requiring all applicants for matriculation to be present not later than ten days after the opening of the session, as published in the announcement.

Students will be assigned seats in the order of, and at the time of their matriculation. Such matriculation and assignment of seats will be had in the office of the registrar of the University. Students will then present themselves for entrance examination; or for the approval of their evidence of preliminary qualification, to a committee of the College of Science, Literature and the Arts appointed for this purpose. Having received an entrance certificate from this committee they will report to the Secretary of the College for admission and classification. They will then be furnished with a record of their standing and of the studies which they will be permitted to take; these they will be required to present to the departments in charge of such studies, within the first week of the term.

ADVANCED STANDING.

Applicants for advanced standing must pass the entrance examinations, or present the usual equivalents. They must furnish satisfactory evidence of time spent and subjects covered in previous professional studies and must present themselves at the above dates and pass the examinations of all departments in which they wish to be exempt, if such examination is deemed necessary by the professors in charge of the various departments.

No conditions of advanced standing will entitle the student to take the two years of any graded study coincidently.

Students will not be permitted to substitute private work in any branch for the regular college course work, excepting in the case of actual laboratory exercises done under the direct supervision of an instructor appointed by the chair and approved by the faculty. Examinations in such private laboratory work will be conducted by the chair. This rule does not apply to conditioned students.

Seniors in the college of science, literature and the arts who contemplate entering the department of medicine are permitted to elect courses in anatomy, histology and embryology, physiology and chemistry in this department in lieu of similar science courses in the college of science, literature and the arts. This election will be contributive toward the degrees given in both colleges. Reciprocally the college of dentistry will accept full courses, taken in the college of science, literature and the arts, in histology, physiology and chemistry in lieu of its first year's work in these branches.

For a statement of fees, either charged or credited in these elected studies, see below.

STANDING.

The standing of students is determined by the results of recitations, written examinations and laboratory work. It is indicated by the terms "passed with excellence," "passed" or "conditioned." "Conditions" may be removed as indicated below. Incomplete work must be made up before the final examinations of the following year.

Students must pass a majority of the studies of their year, in order to classify in the next succeeding year.

In the studies of the first and second years, the classes will recite in sections during hours regularly assigned for this purpose.

CONDITIONS.

Entrance conditions must be removed before entering upon the work of the second year.

Examinations of conditioned students and of applicants for advanced standing, in the common studies of the first and second years, will be held in these branches, upon the following dates:

September 20, 9 a. m. Anatomy, first year; Physiology, second year.

September 21, 2 p. m. Histology, first year; Chemistry, second year.

September 21, 9 a. m. Physiology, first year; Anatomy, second year.

September 21, 2 p. m. Chemistry, first year; Histology, second year.

Conditions may also be removed at the close of each semester.

Candidates for graduation who carry conditions in studies of previous years must remove these conditions at the end of the first semester in order to be eligible for final examination.

Students will not be permitted to take examinations in the second years' work in any branch until they have removed conditions in the first years' work in that branch.

Students who carry conditions into a succeeding year may find a resultant conflict of study hours. In that event they will give preference to the unfinished studies of the lower or conflicting course.

ATTENDANCE AND DISCIPLINE.

Students are required to attend four-fifths of the lectures in each course. This rule is not intended for the benefit of those who seek admission after the opening of the college year, but is designed to cover cases of sickness or unavoidable absence. It does not apply to laboratory courses which must be taken in full and must invariably be entered during the first week in which they begin.

Habitual absence, without a satisfactory excuse, continued indifference to study, or persistently poor scholarship may subject the student to temporary or permanent suspension.

The connection of any student with this college, may be terminated at any time, without a return of fees, whenever such action may be advisable on the ground of immorality or disorderly conduct, or a failure to conform to the established rules.

BREAKAGE AND LOSS.

In each laboratory course the student will be assigned a certain amount of apparatus and material, for which he will give a receipt.

For apparatus and material attaching to his laboratory desk he will also be held responsible. At the end of each course, if such apparatus and material are restored in good condition, this receipt will be returned to him.

All apparatus lost or damaged, and all injury to, or destruction of university property, will be charged to him and must be paid for before he can receive credits for his course or take his annual examinations.

A statement of these charges will be submitted to the registrar and such breakage and loss fees will be payable to him.

MATERIALS FOR TECHNICS.

One issue for each piece of work will be made by the college, which, in case of failure, loss, damage or destruction, must be replaced by the student.

The completed work remains the property of the college; from three to five pieces in each branch will be retained as honor cases; the remainder may be taken by the students on conditions which will be announced.

INSTRUMENTS, TOOLS AND MATERIALS.

All students are required to provide themselves with instruments, tools and materials as prescribed by the college. These can be obtained in the city, with the usual discount to students. The first installment must be procured and be approved by the instructor before seats can be assigned in the technic laboratories.

COLLEGE MUSEUM.

Members of the dental profession, and others interested, are invited to contribute pathological specimens, casts of malformations, irregularities of the teeth, models, charts, drawings, etc., which may be useful as illustrative matter in the lecture rooms.

ALUMNI ASSOCIATION.

An association of the graduates of the college has its annual meeting during commencement week.

CLINICAL FACILITIES.

The opportunities for acquiring a practical knowledge of both operative and prosthetic procedures is unsurpassed, the material presenting in the infirmary clinic being more than ample for all purposes of instruction.

GRADUATION.

At the close of the third year, a student who has passed all examinations satisfactorily, receives the degree of Doctor of Dental Medicine (D. M. D.) upon the following conditions:

He must be twenty-one years of age and of good moral character.

He must have attended three full courses of instruction, the last of which must have been in this college.

He must have dissected at least two parts; must have performed thoroughly and to the satisfaction of the Professors of Operative Dentistry the usual dental operations, and also demonstrated suitable proficiency in

the department of prothetic dentistry, to the satisfaction of the Professor of Prosthetic Dentistry. All the above operations, as well as the prosthetic work must have been done in the college.

FEES AND EXPENSES.

The college fee, which includes all charges for matriculation, lecture and laboratory courses, dissections, and diploma, (upon graduation,) is, for each year, one hundred dollars, (\$100.00).

One half of this fee will be payable when the students matriculates. The registrar's receipt for this portion will entitle the holder to take entrance examinations and to classify. The second half will be payable at the opening of the second semester February 6th, 1900.

If the applicant fails to pass the entrance examinations, his fee will be returned by the registrar. Absence, or failure to continue study, will not entitle the student to return of any part of above fees, excepting in cases of special hardship, when application may be made to the Executive Committee of the Board of Regents.

A student who takes advanced standing, will receive a credit of five dollars per semester for each laboratory course from which he may be exempt.

In addition to the college fee, there is a rental fee of \$2.00 for a microscope, in each semester when its use is required, provided the student is not supplied with a satisfactory instrument. It is an advantage for the student to possess his own, and assistance in the selection of one will be given when desired. There is also a rental fee of \$1.00 for microscope in the course of bacteriology in the third year.

There are no free scholarships, and no students are received for less than the regular fees.

Rooms and board convenient to the college can be obtained at prices ranging from \$3.00 to \$5.00 per week according to accomodations.

Furnished rooms without board, from \$5.00 to \$10.00, and unfurnished rooms from \$4.00 to \$7.00 per month.

A list of rooms and boarding places is kept by the Secretary of the University Y. M. C. A., Mr. L. T. Savage, to whom inquiries or applications may be addressed.

From one hundred and fifty to one hundred and seventy-five dollars are necessary to defray the expenses of the first month. These include tuition for first semester, board and room for the month, and books, instruments, tools and materials for the year, which must be purchased before commencing work. In order to avoid embarrassment the student should bring sufficient funds to cover these first expenses.

No student will be permitted to take final examinations until after all fees and charges have been paid.

For further information address Dr. W. P. Dickinson, Secretary, Dayton Building, Minneapolis.

Students 1898-1899

THIRD YEAR CLASS—20.

Argue, John Ephraim, Carlisle, N. D.	Kelly, James Lawrence, St. Anthony Park.
Benton, Clarence Daniel, Minneapolis.	King, Nelson Madison, Rochester.
Campbell, Alexander Silas, Ortonville.	Marston, Harold Foster, Chattanooga, Tenn.
Foote, Charles Percival, St. Paul.	Phelps, Elton Henry, St. Paul.
Gallagher, Ray Harrold, Emporia, Neb.	Thomas, Harry Estus, Ellendale, N. D.
Gorgen, Edward, New Richland.	Torrance, Charles Murt, Minneapolis.
Hagaman, Edwin Alexander, Rochester.	Updyke, Robert Patten, Waseca.
Hall, George Everett, Rat Portage, Ont.	Wells, James Osborne, Newberry, S. C.
Henderson, Hugh S., Spicer.	Whitmore, Sanford Eugene, Montevideo.
Hertz, Eugene Franklyn, St. Paul.	Whittemore, Morse Kittredge, Glenwood.

SECOND YEAR CLASS—44.

Adams, Eugene Franklin, Grand Forks, N. D.	Munns, Edward Ernest, Minneapolis.
Anderson, Frederick Edward, Red Wing.	Nelson, Harold James, Glencoe.
Bertram, Harry Wallace, Monticello.	Nelson, Louis, Lake Park.
Busse, Theo Christian, Shakopee.	Norris, George Washington, Tracy.
Carlson, Hanphen Henry, Grove City.	Olson, Adolph,
Christianson, Edward William, Fargo, N. D.	Olson, Carl G., Minneapolis.
Clarke, Joseph, Green Isle.	Owre, Aneas, Minneapolis.
Cooper, Herbert Charles, McCauleyville.	Patterson, John F., St. Paul.
Costain, Elbert Pryor, Moorhead.	Revell, Aris LeRoy, Minneapolis.
Gloyd, William, Minneapolis.	Riley, Frank Freeman, Lakefield.
Hallenberg, Albert, Fargo, N. D.	Roberts, Oscar Edwin, Cottage Grove.
Hintz, Charles August, Courtland.	Scholberg, Martin Hans,
Hoorn, Karl H., Red Wing.	Sommermeier, E. F., Eau Claire, Wis.
Howell, Herbert Roosevelt, Minneapolis.	Sprague, Dan Eugene, Minneapolis.
Hutchin, Robert Clement, So. St. Paul.	Staiger, Frank Joseph, Red Wing.
Jaehning, Herman S., New Richland.	Stone, Gilbert Ferdinand, St. Paul.
Jensen, Charles Alfred, Brighton.	Swanson, Anton W., Vasa.
Knudson, John F., Pelican Rapids.	Thorsen, Adolph, New Centerville, Wis.
Kroehler, Benjamin George, Mound Prairie.	Thorsen, Axel, Rock Dell.
Lamphere, Ralph Leo, Moorhead.	Tyler, Homer Amos, Simpson.
Larson, Henry Charles, Hastings.	Wilson, Robert Barnes, St. Paul.
Lockhart, Harvey John, Pelican Rapids.	Zieger, Otto Charles Edward, Owatonna.

FIRST YEAR CLASS—46.

Alther, Arthur Eugene, Minneapolis.	Kershaw, Albert LaFayette, St. Paul.
Ball, William Harrison, Morgan.	McNerthney, Michael, Red Lake, Falls.
Beede, Thad S., Aurora, Ill.	Martin, William Leslie, Wood Lake.
Billings, Wall Marion, Minneapolis.	Moody, Adolph F., Minneapolis.
Bolstad, Ole, Colfax, N. D.	Nelson, Alexander, Minneapolis.
Brodeen, Albin, Minneapolis.	Nelson, Orrin Chauncey, Manannah.
Child, Harry Burr, Minneapolis.	Osterberg, Alfred, Stockholm.
Cox, Norman J., Wasioja.	Owens, John Evan, Sleepy Eye.
Crandall, Charles Ray, Etter.	Pepper, Frederick William, Minneapolis
Creelman, Ernest Everett, Parker's Lake.	Peregrine, Harry Granger, Winona.
Dahlgren, Bror Eric, Gothenburg, Sweden.	Reinhart, Richard, Duluth.
Doheny, James Edward, Green Isle.	Rhame, Walter Stevens, Minneapolis.
Fiset, Chas. Fred'k E., Grand Forks, N. D.	Sansum, Oliver Wendell, New Orleans.
Flanigan, Charles Patrick, Minneapolis.	Sargent, Will Ernest, Lowell, Mass.
Fletcher, Freeman Fowler, Red Lake Falls.	Smith, Ai Biley, Minneapolis.
Frodeen, Henry Emanuel, Minneapolis.	Smith, Harvey C., Rochester.
George, Everett Clark, Chippewa Falls, Wis.	Stoudt, Frank Lawrence, Hastings.
Gillett, Guy Leroy, Lake City.	Sweet, Cyril Fairman, Mankato.
Holmberg, John Louis, St. Peter.	Thiebaud, James Earle, Minneapolis.
Holmgren, Carl John, Minneapolis.	Thompson, Thomas L., Peterson.
Jargo, Adam Boorman, Luverne.	Trelstad, Peter B., Zumbrota.
Johnson, Martin Calvin, Minneapolis.	Van Evera, John B., Minneapolis.
Kennedy, John Duncan, Tracy.	Yates, Cecil Fred, New Ulm.

